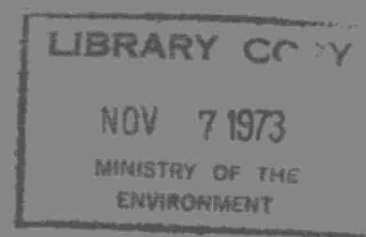


OPERATING SUMMARY

PARIS



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Ontario

Ministry of the
Environment

135 St. Clair Avenue West
Toronto 195, Ontario

We are pleased to present you with the 1972 operating summary for the water pollution control plant serving your community.

This summary contains data on the performance of the plant as well as relevant financial information. Of particular interest is the review of the year's activities in which significant items of these data are discussed in some detail by the operations engineer and his staff who, by their day-to-day involvement with the operation, are thoroughly familiar with the plant.

We appreciate your continuing interest in protecting the environment through the efficient operation of this wastewater treatment facility.

D.S. Caverly,
Assistant Deputy Minister.

D.A. McTavish, P. Eng.,
Director,
Project Operations Branch.

MINISTRY OF THE ENVIRONMENT

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Honourable James A. C. Auld

DEPUTY MINISTER
E. Biggs

ASSISTANT DEPUTY MINISTER
D. S. Caverly

EXECUTIVE DIRECTOR
K. H. Sharpe

PROJECT OPERATIONS BRANCH

DIRECTOR
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ASSISTANT DIRECTOR
C. W. Perry

ACTING REGIONAL SUPERVISOR
B. W. Hansler

OPERATIONS ENGINEER
J. Nurmberg

135 St. Clair Avenue West
Toronto 195

PARIS
WATER POLLUTION CONTROL PLANT

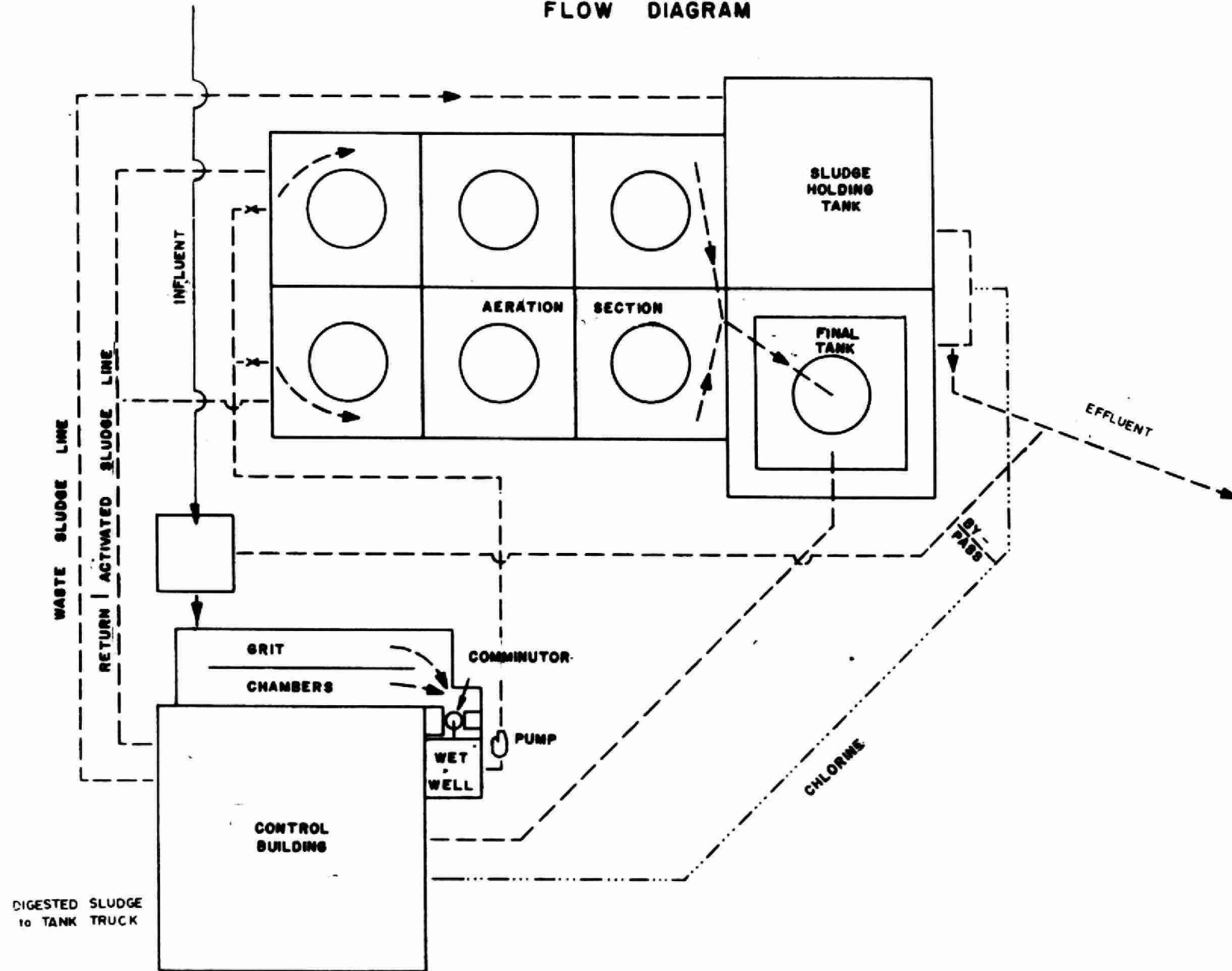
operated for
THE TOWN OF PARIS
by the
MINISTRY OF THE ENVIRONMENT

1972 ANNUAL OPERATING SUMMARY

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PARIS W.P.C.P.
FLOW DIAGRAM



DESIGN DATA

PROJECT NO. 2-0034-59

TREATMENT Extended Aeration

DESIGN FLOW 0.50 mgd

DESIGN POPULATION 3,600

BOD - Raw Sewage 200 mg/l

SS - Raw Sewage 170 mg/l

PRETREATMENT

Grit Removal

Type: Channel; manually cleaned
Size: Two 25 X 2½ X 2½'

Comminution

Type: Jones & Atwood (1)

RAW SEWAGE PUMP

Type: Worthington
Size: One 335 gpm @ 12' tdh

SECONDARY TREATMENT

Aeration Tanks

Type: Mechanical; single-pass
Size: Two 96 X 32 X 10' (372,000 gal)
Retention: 17.9 hr

Aerators

- Ames Crosta (6)

Secondary Sedimentation

Type: Dorr
Size: Two 36 X 36 X 9' swd
(145,000 gal)
Retention: 3.5 hr
Loading: Surface, 387 gal/ft²/day
Weir, 38,000 gal/ft/day
(one tank)

CHLORINATION

Type: W & T
Size: One 400 lb/day

Chlorine Contact Chamber

- in outfall

OUTFALL

- to Grand River

SLUDGE HANDLING

Holding Tank

- one of the sedimentation tanks, without mechanism, is provided as a holding tank.

'72 Review

GENERAL

The Paris Water Pollution Control Plant is a 0.50 mgd extended aeration activated sludge plant consisting of screening facilities, on-site pumping station, grit channel, aeration, final settling, chlorination and a sludge holding tank. There are two remote pumping stations both provided with standby electrical power.

The project is operated and maintained by a chief operator and casual labour when required. During 1972, there were no major operating problems. Under the supervision of head office personnel the staff operated a clean, attractive and very efficient plant for the Town of Paris.

EXPENDITURES

The total operating cost for the year was \$18,791.63 or \$196.82 per million gallons of sewage treated. The unit cost of removing one pound of BOD was 13 cents.

PLANT FLOWS AND CHLORINATION

The total raw sewage flow treated at the plant was 95.53 million gallons, an increase of 9.73 million gallons from 1971. This represented an average daily flow of .26 million gallons or 52 percent of the plant's design capacity of 0.50 mgd.

An average chlorine dosage of 2.0 mg/l was required to maintain an average chlorine residual in the final effluent of 0.5 mg/l.

PLANT EFFICIENCY

The average BOD and suspended solids concentrations in the influent were 167 and 136 mg/l respectively. The effluent BOD and suspended solids concentration of 13 and 9 mg/l were below the Ministry of the Environment's objective of 15 mg/l for each. Removal efficiencies for BOD and suspended solids were 92 and 93 percent respectively.

CONCLUSION

The water pollution control plant operated satisfactorily at approximately 50 percent of its design flow capacity.

PROJECT COSTS

2-0034-59 NET CAPITAL COST	\$726, 025. 80
DEDUCT - Portion financed by CMHC (Final)	(365, 238. 90)
MUNICIPAL ADVANCES	<u>(52, 170. 00)</u>
Long Term Debt to MOE	<u>\$308, 616. 90</u>
Debt Retirement Balance at Credit (Sinking Fund) December 31, 1972	\$ <u>78, 954. 01</u>
Net Operating	\$ 18, 062. 72
Debt Retirement	2, 706. 00
Reserve	3, 063. 39
Interest Charged	<u>17, 306. 91</u>
TOTAL	\$ <u>41, 139. 02</u>

RESERVE ACCOUNT

Balance @ January 1, 1972	\$ 34, 644. 45
Deposited by Municipality	3, 063. 39
Interest Earned	<u>2, 295. 94</u>
	\$ 40, 003. 78
Less Expenditures	<u>-</u>
Balance @ December 31, 1972	\$ <u>40, 003. 78</u>

PROJECT COSTS

2-0034-59 - SPECIAL OPERATING AGREEMENT
NET CAPITAL COST

DEDUCT - Portion financed by

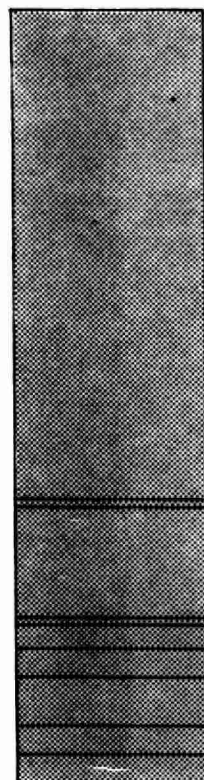
Long Term Debt to MOE

Debt Retirement Balance at Credit
(Sinking Fund) December 31, 1972

Net Operating Debt Retirement Reserve	\$ 184.08
Interest Charged	<u> </u>
TOTAL	\$ <u>184.08</u>

RESERVE ACCOUNT

Balance @ January 1, 1972	\$1, 670.95
Deposited by Municipality	184.08
Interest Earned	<u>111.86</u>
	\$1, 966.89
Less Expenditures	<u> </u>
Balance @ December 31, 1972	\$ <u>1, 966.89</u>



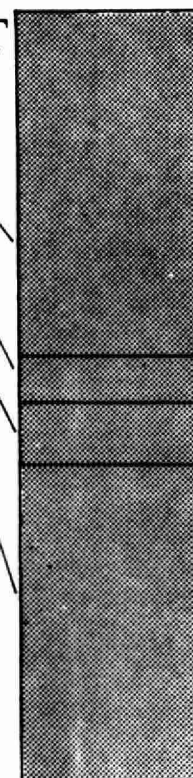
OPERATING COSTS

● PAYROLL	63 %
● FUEL	1 %
● POWER	15 %
● CHEMICALS	<1 %
● GENERAL SUPPLIES	3 %
● EQUIPMENT	NIL %
● REPAIRS & MAINTENANCE	4 %
● SUNDRY	6 %
● WATER	3 %
● TRAVEL	4 %

1972 COSTS

TOTAL ANNUAL COST

● NET OPERATING	44 %
● DEBT RETIREMENT	7 %
● RESERVE	8 %
● INTEREST	41 %



YEARLY OPERATING COSTS

YEAR	SEWAGE TREATED in million gallons	TOTAL OPERATING COSTS	TREATMENT COSTS	
			\$ per million gal	¢ per lb BOD
1968	78.08*	13,098.51	174.46	8 cents
1969	97.80	16,326.58	166.94	9 cents
1970	93.3	17,087.84	183.15	10 cents
1971	85.80	18,471.68	215.30	13 cents
1972	95.9	17,786.33	186.20	12 cents

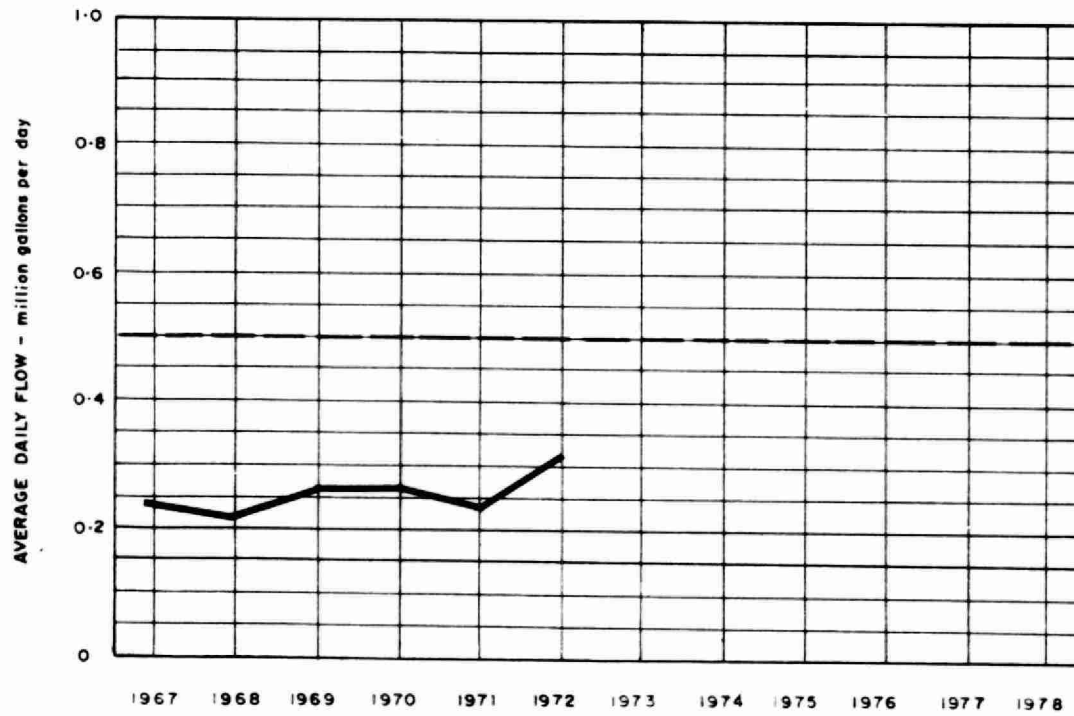
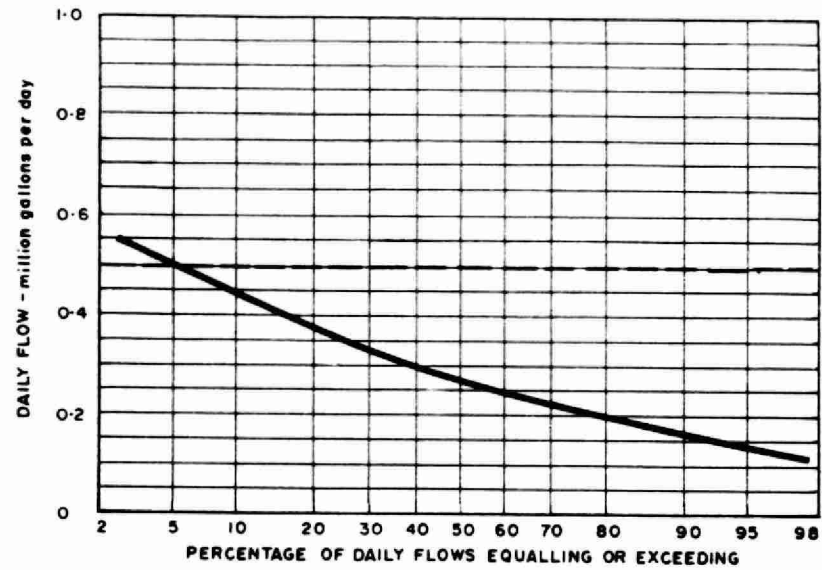
MONTHLY OPERATING COSTS

MONTH	TOTAL EXPENDITURE	REGULAR PAYROLL	CASUAL PAYROLL	FUEL	POWER	CHEMICALS	GENERAL SUPPLIES	EQUIPMENT	REPAIRS and MAINTENANCE	SUNDRY*	WATER	TRAVEL
JAN	834.05	834.05										
FEB	1240.14	809.99		58.23	244.56		57.31			12.55	57.50	
MAR	1227.35	819.00			242.61		79.83			39.86		46.05
APR	1286.97	794.79			228.01		42.33		102.29	15.70	53.00	50.85
MAY	1402.26	1031.00			239.78		40.48			20.77		70.23
JUNE	1602.59	1141.77		78.06	216.13		19.34		56.14	12.31	34.50	44.34
JULY	332.05	19.19			215.58		34.25			18.45		44.58
AUG	1381.08	795.06			198.21					270.49	33.50	83.82
SEPT	1434.14	750.55			204.96	177.00	183.88			25.62		92.13
OCT	1902.29	1036.23			213.26	(26.76)	50.86		134.35	332.85	161.50	
NOV	854.62	22.43			217.78				104.17	314.04		196.20
DEC	4288.79	2972.89		50.27	465.35		76.36		374.05	26.51	204.50	118.86
TOTAL	17786.33	11026.95		186.56	2686.23	150.24	584.64		771.00	1089.15	544.50	747.06

Brackets indicate credit.

PROCESS DATA

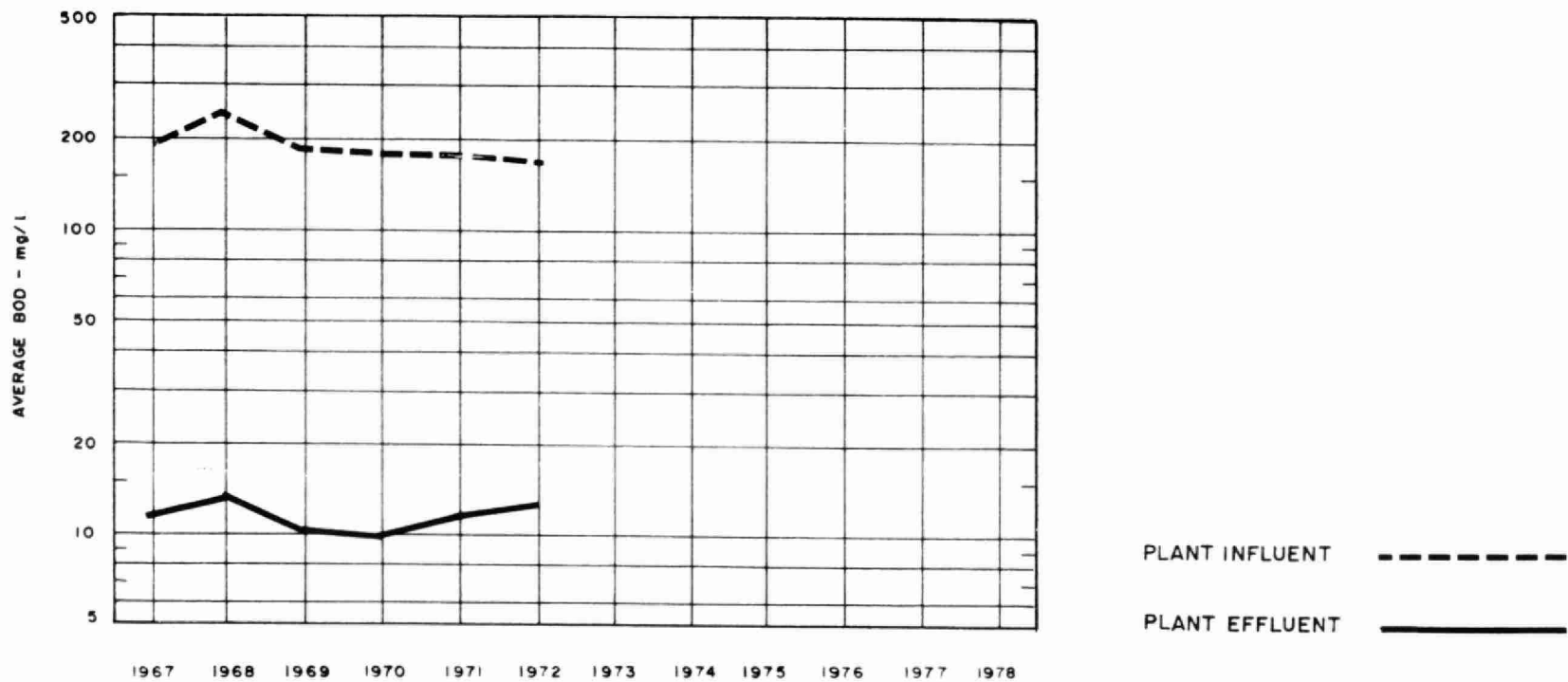
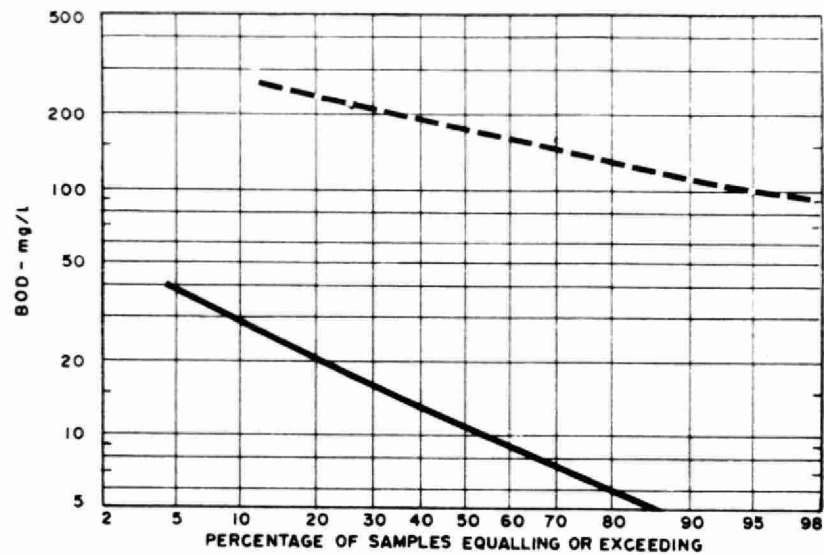
FLows



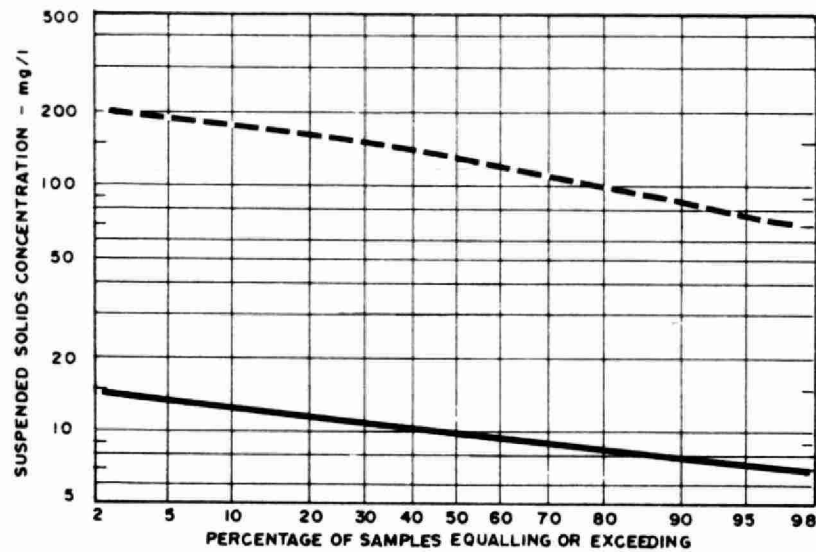
PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW	AVERAGE DAY	MAXIMUM DAY	INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT
	million gallons	mil. gal	mgd	mg/l	mg/l	%	10 ³ pounds	mg/l	mg/l	%	10 ³ pounds	mg/l P	mg/l P
JAN	7.15	.23	.38	240	28	88	15	171	10	94	12	6.0	0.6
FEB	6.68	.23	.29	145	29	80	8	151	12	92	9	9.6	1.2
MAR	9.40	.30	.40	140	10	93	12	147	12	92	13	4.6	2.1
APR	13.21	.44	1.00+	160	18	89	19	113	8	92	14	5.0	5.6
MAY	8.48	.27	.38	175	17	90	13	143	9	94	11	6.4	5.5
JUNE	7.34	.24	.34	240	15	94	17	160	10	94	11	6.9	4.9
JULY	6.23	.20	.30	170	12	93	10	164	9	95	10	6.6	4.2
AUG	7.22	.23	.33	185	11	94	13	119	9	92	8	7.2	4.2
SEPT	6.51	.22	.27	220	11	95	14	120	9	93	7	12.8	2.6
OCT	7.14	.23	.29	180	6	97	12	106	8	92	7	7.0	4.2
NOV	8.00	.27	.35	100	4	96	8	108	9	92	8	5.0	2.5
DEC	8.17	.26	.37	140	9	94	11	132	8	94	10	6.5	4.8
TOTAL	95.53	-	-	-	-	-	152	-	-	-	120	-	-
AVG.		.26	MAXIMUM 1.00+	167	13	92	13	136	9	93	10	7.1	3.4
No. of Samples	-	-	-	20	20	-	-	71	263	-	-	20	20

BIOCHEMICAL OXYGEN DEMAND

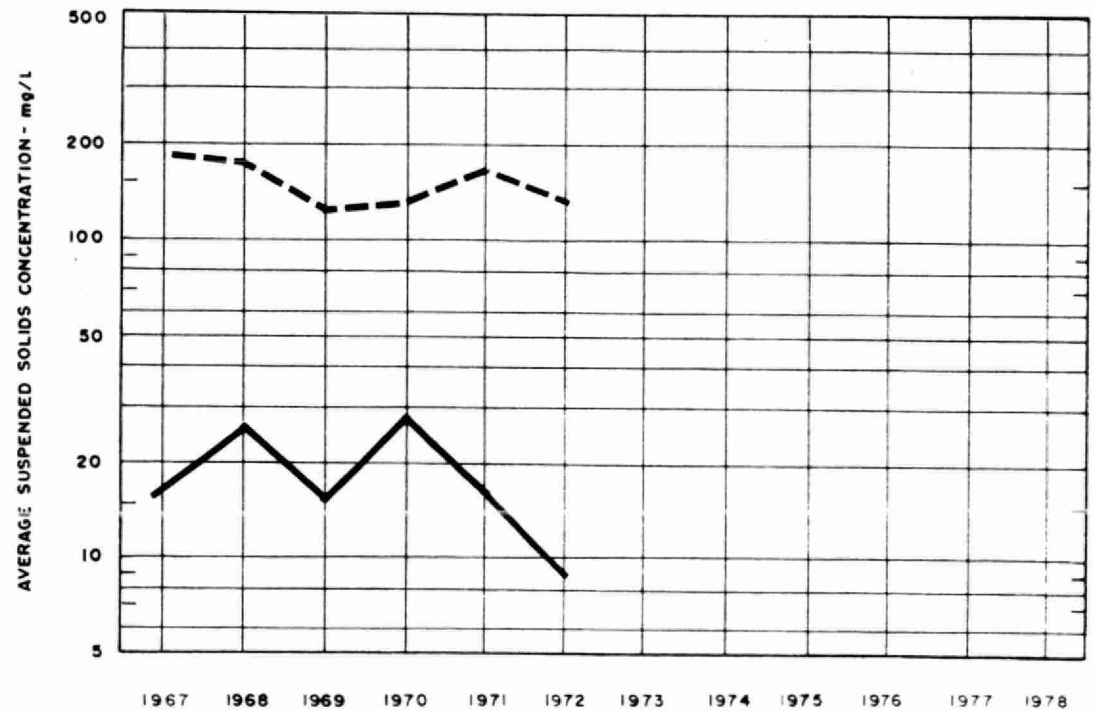


SUSPENDED SOLIDS

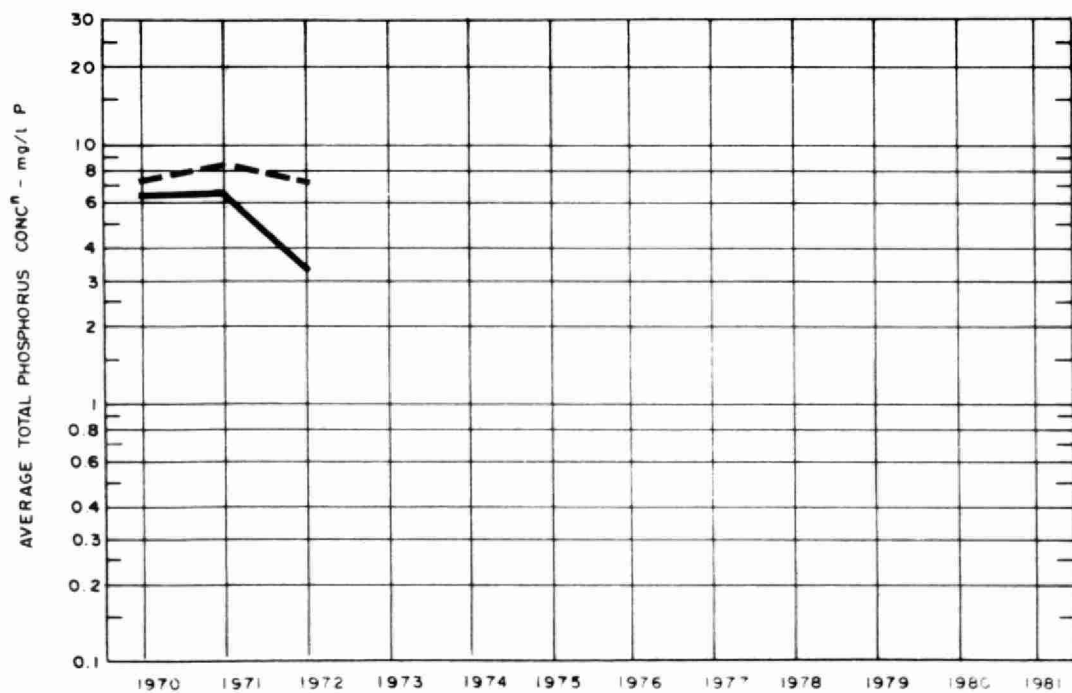
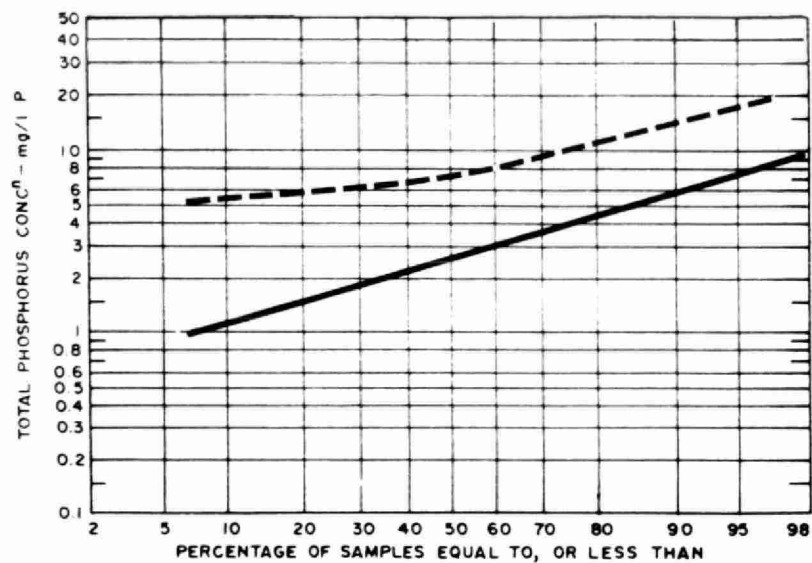


PLANT INFLUENT - - - - -

PLANT EFFLUENT _____



PHOSPHORUS



PLANT INFLUENT

PLANT EFFLUENT

TREATMENT DATA

MONTH	GRIT	CHLORINATION		AERATION			WASTE SLUDGE			AEROBIC DIGESTER			
	QUANTITY REMOVED	CL ₂ USED	AVG. DOSAGE	MLSS CONC	F/M	AIR USED	QUANTITY	SUSPENDED SOLIDS	VOL. SOLIDS	QUANTITY REMOVED	SUSPENDED SOLIDS	VOL SOLIDS	AMOUNT HAULED
	cubic feet	pounds	mg/l	mg/l	day ⁻¹	$\frac{1000 \text{ ft}^3}{\text{lb BOD}}$	10 gallons	mg/l	%	10 gallons	mg/l	%	cubic yards
JAN	12	153	2.1	9100	.016			15800	78				
FEB	15	145	2.2	10200	.009			19600	69				
MAR	12	155	1.6	10500	.011			13600	80				
APR	6	128 a	1.3	6800	.028			14200	82				
MAY	15	155	1.8	8800	.015			13600	80				
JUNE	12	150	2.0	11100	.014			13400	80				
JULY	12	155	2.5	11100	.008			26400	79				
AUG	15	155	2.2	11600	.010			17600	78				
SEPT	12	150	2.3	11200	.011			18600	79				
OCT	18	120 b	2.2	9500	.012			14500	79				
NOV	12	150	1.9	9500	.008			11700	80				
DEC	12	155	1.9	10300	.010			11000	82				
TOTAL	153	1771	-	-	-	-		-	-		-	-	
AVG.	1.6 cu. ft/mil gal	148	2.0	10000	.013			15800	79				

a - Chlorination for 23 days

b - Chlorination for 24 days

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